Increase in New HIV Diagnoses among Young Black Men Who Have Sex with Men (MSM), Milwaukee County, Wisconsin, 1999–2008

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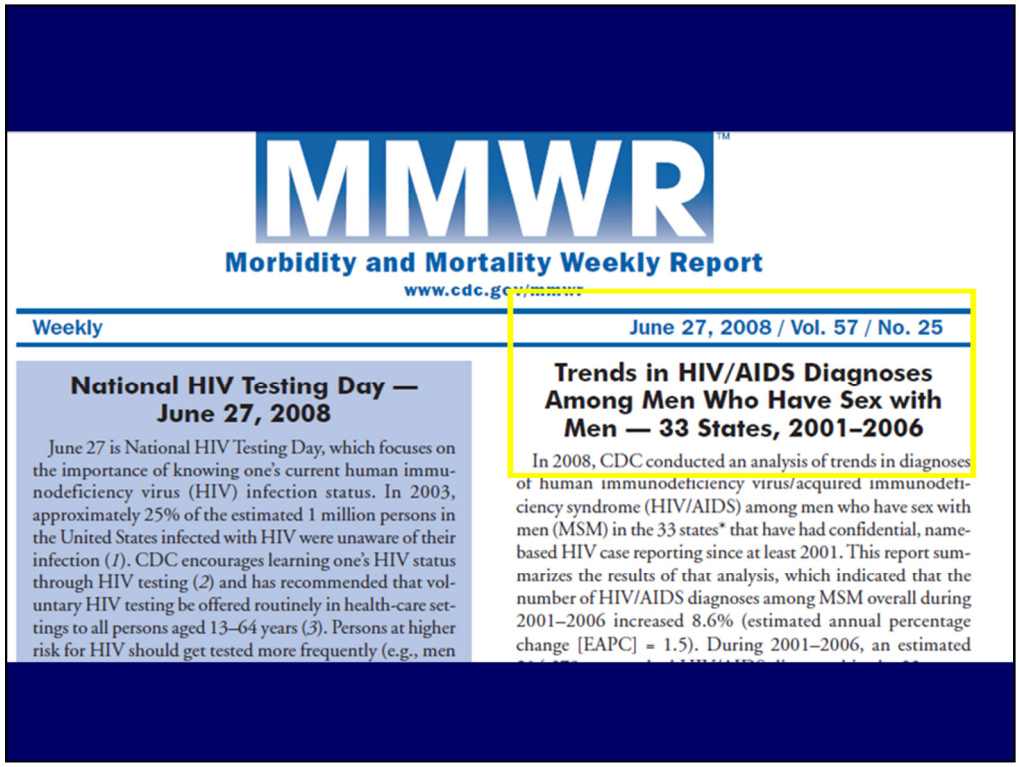

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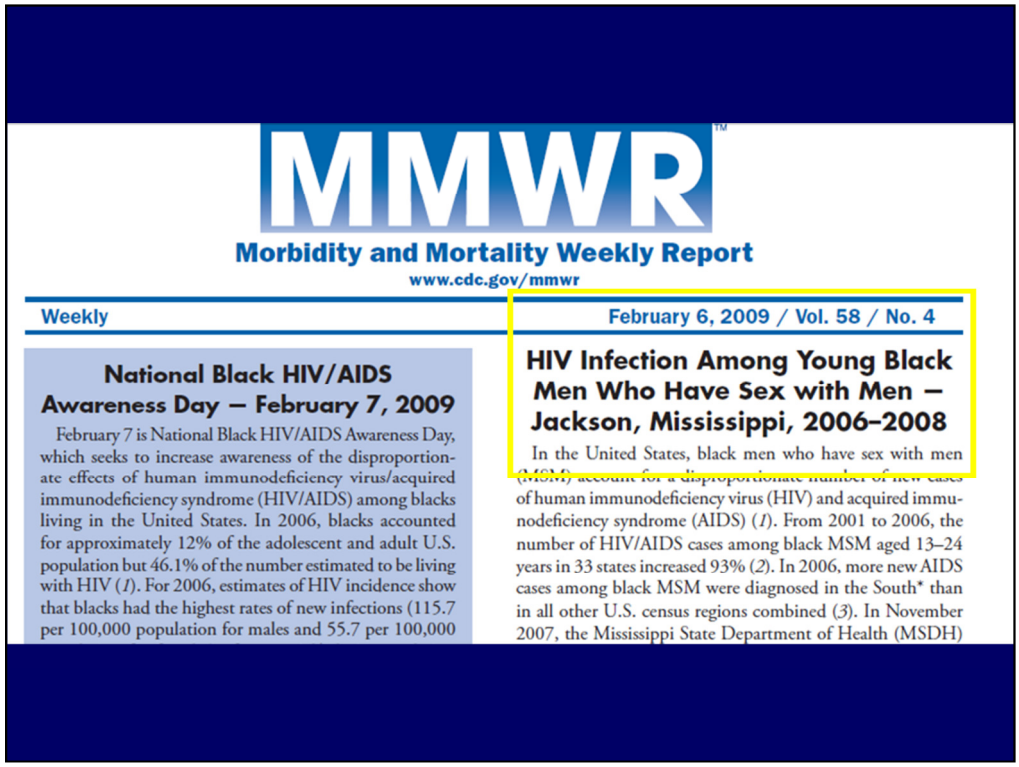
National HIV Testing Day — June 27, 2008

June 27 is National HIV Testing Day, which focuses on the importance of knowing one's current human immunodeficiency virus (HIV) infection status. In 2003, approximately 25% of the estimated 1 million persons in the United States infected with HIV were unaware of their infection (*1*). CDC encourages learning one's HIV status through HIV testing (*2*) and has recommended that voluntary HIV testing be offered routinely in health-care settings to all persons aged 13–64 years (*3*). Persons at higher risk for HIV should get tested more frequently (e.g., men

Trends in HIV/AIDS Diagnoses Among Men Who Have Sex with Men — 33 States, 2001–2006

In 2008, CDC conducted an analysis of trends in diagnoses of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) among men who have sex with men (MSM) in the 33 states* that have had confidential, name-based HIV case reporting since at least 2001. This report summarizes the results of that analysis, which indicated that the number of HIV/AIDS diagnoses among MSM overall during 2001–2006 increased 8.6% (estimated annual percentage change [EAPC] = 1.5). During 2001–2006, an estimated

According to aggregate data from 33 states, HIV diagnoses increased among young men who have sex with men (MSM) from 2001-2006. Increases were most pronounced among black MSM aged 13-24 years, who experienced a 93% increase in the number of diagnosed infections. Among MSM aged 13-24 years, black MSM accounted for twice as many infections as white and Latino MSM during 2001-2006.



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National Black HIV/AIDS Awareness Day — February 7, 2009

February 7 is National Black HIV/AIDS Awareness Day, which seeks to increase awareness of the disproportionate effects of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) among blacks living in the United States. In 2006, blacks accounted for approximately 12% of the adolescent and adult U.S. population but 46.1% of the number estimated to be living with HIV (*1*). For 2006, estimates of HIV incidence show that blacks had the highest rates of new infections (115.7 per 100,000 population for males and 55.7 per 100,000

HIV Infection Among Young Black Men Who Have Sex with Men — Jackson, Mississippi, 2006–2008

In the United States, black men who have sex with men (MSM) account for a disproportionate number of new cases of human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) (*1*). From 2001 to 2006, the number of HIV/AIDS cases among black MSM aged 13–24 years in 33 states increased 93% (*2*). In 2006, more new AIDS cases among black MSM were diagnosed in the South* than in all other U.S. census regions combined (*3*). In November 2007, the Mississippi State Department of Health (MSDH)

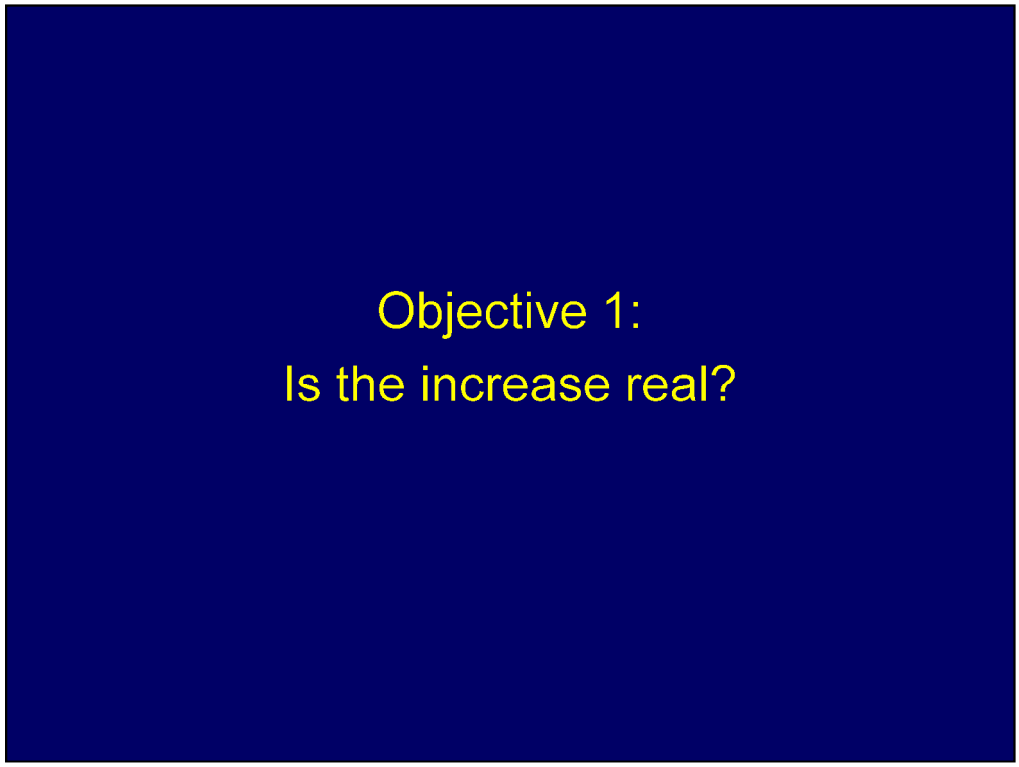
In February 2009, MMWR published an article highlighting increased HIV diagnoses among young black MSM in Jackson, Mississippi. This report prompted the request for an investigation in Milwaukee.

Background

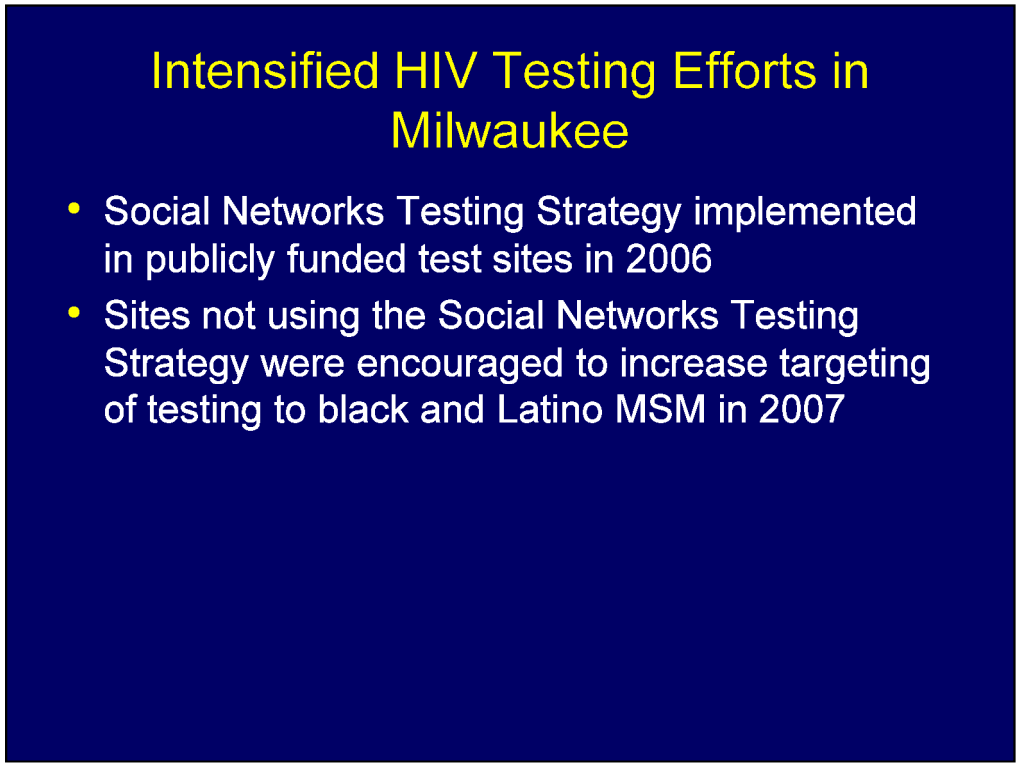
- Wisconsin Division of Public Health (WDPH) AIDS/HIV Program noticed an increase in reported HIV diagnoses among young men who have sex with men (MSM) (aged 15–29 years) from 2000–2008 in Milwaukee County
- Reported HIV diagnoses increased 125% among young black MSM
- In August 2008, WDPH invited the Centers for Disease Control and Prevention (CDC) to assist in an investigation
- The investigation was conducted from October–November 2009

Objectives

- Explore whether the increase in diagnoses among young MSM might be attributable to intensified HIV testing efforts
- Investigate factors (demographic, behavioral, biological, and/or structural/social) associated with the increase in diagnoses
- Assess opportunities to prevent the spread of HIV among young MSM



Trends in HIV diagnoses are affected by changes in the intensity of HIV testing efforts. The investigation addressed whether the observed increase in diagnoses might be an artifact of more intensified HIV testing among young black MSM relative to young Latino and white MSM.



Intensified HIV testing efforts in Milwaukee included the 2006 implementation of a Social Networks Testing Strategy, which encouraged HIV-positive MSM to bring in members of their social and sexual networks to get tested.

Methods for Exploring Increase in Reported Diagnoses

- Questions guiding investigation (Objective 1) included
  - Did testing increase more among young black MSM compared to young Latino MSM and young white MSM?
  - Did positivity increase more among young black MSM compared to young Latino MSM and young white MSM?
  - When did the increase in diagnoses occur relative to the expansion of testing and improved targeting?

Methods for Exploring Increase in Reported Diagnoses

- Review of HIV case surveillance and testing data for publicly funded sites in Milwaukee County from 1999-2001 to 2006-2008
- CDC examined aggregate, de-identified data
- MSM risk category was determined from surveillance data

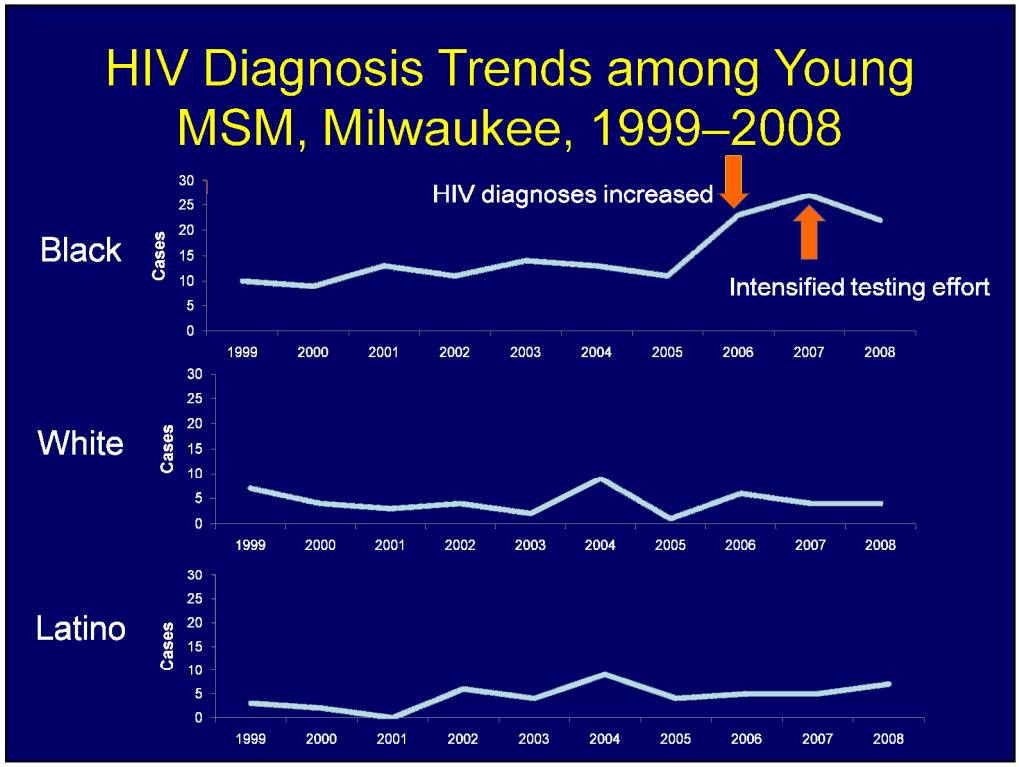
Trends in HIV Testing among MSM Aged 15–29 years by Race/Ethnicity, Milwaukee, 1999–2008

	Black		Latino		White	
	1999-2001	2006-2008	1999-2001	2006-2008	1999-2001	2006-2008
# of tests conducted	213	739	189	561	868	1,088
% increase*	*247%*		*197%*		*25%*	
# of positive tests	12	54	<5	13	10	15
Positivity	5.6%	7.3%	2.1%	2.3%	1.2%	1.4%
% increase*	*30%*		*9%*		*20%*	

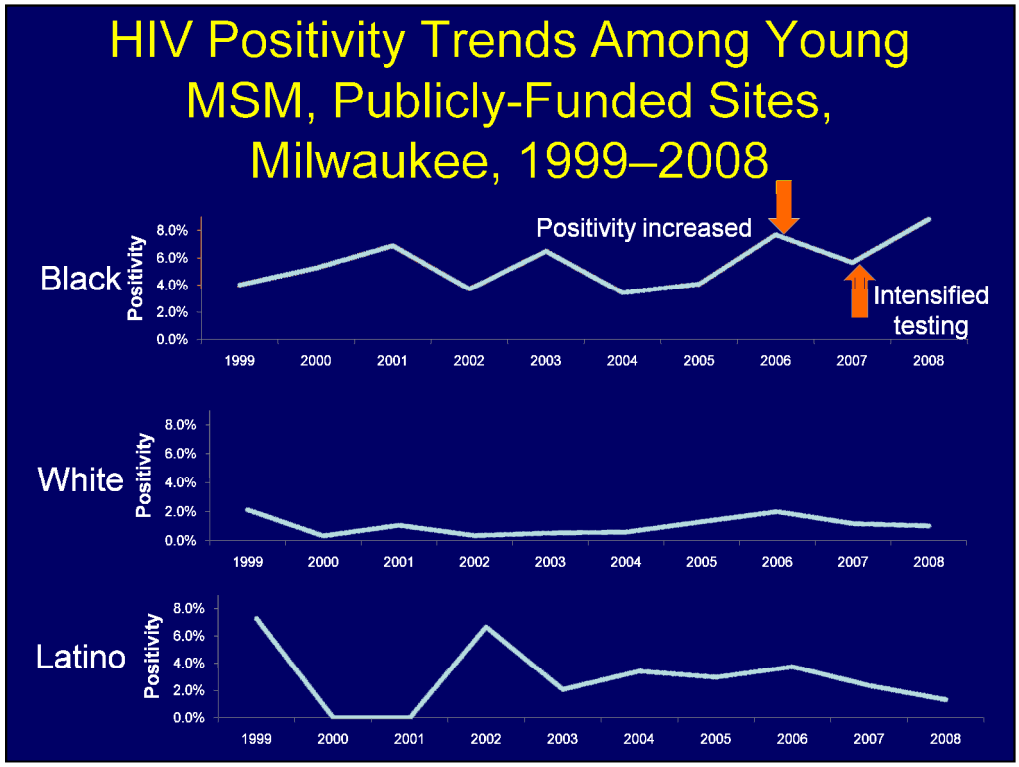
*Note: % increase reflects the difference between the two 3-year periods.

Comparing the time periods 1999-2001 and 2006-2008, HIV testing increased more among young black MSM than among young Latino and white MSM. Positivity (percent testing positive) also increased more among young black MSM than among young Latino and white MSM.

Persons who test positive for HIV infection may include persons with recent or longstanding infection. If the rate of new infections does not change, expanded HIV testing would be expected to reduce the population of undiagnosed HIV-infected persons over time, resulting in lower positivity. However, positivity increased in Milwaukee between the two time periods, 1999-2001 and 2006-2008, and across three racial/ethnic groups. Possible explanations for the increase in positivity include better targeting of HIV testing or an increase in new HIV infections. Efforts made to increase the targeting of HIV testing from the first to the second time period support the first explanation. However, unless targeting improved more among young black MSM than among young Latino and white MSM, targeting may not completely explain the greater increase in positivity among young black MSM.



HIV diagnoses were reported from publicly funded sites and private clinics. Among young black MSM, diagnoses increased before the intensified testing effort began. This pattern was not observed among young white and Latino MSM. Because this increase in diagnoses might have resulted from the increasing number of tests performed, it was also important to examine positivity trends.



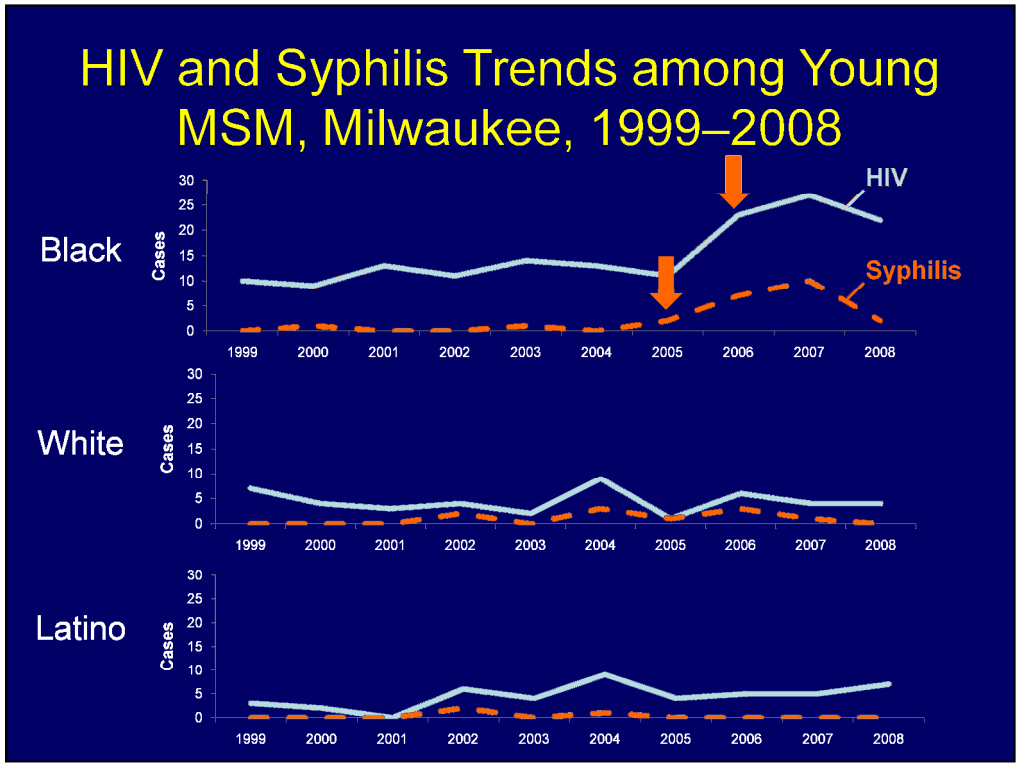
The increase in positivity among young black MSM occurred before the intensified testing effort began. This pattern was not observed among young white and Latino MSM.

Evidence Against Intensified Testing Accounting for Increase

- Increase in diagnoses among young black MSM pre-dated the intensified testing effort
- Social Networks Testing Strategy identified few (≤ 5) cases each year, not enough to account for the increase

Did HIV Transmission Increase among Young Black MSM?

- Because intensified testing alone could not account for the increased HIV diagnoses among young black MSM, the next question was whether transmission could have increased.



Syphilis has been considered an “early warning” for increases in HIV transmission. Syphilis cases increased among young black MSM one year before the increase in HIV diagnoses. This pattern differed from the pattern among young Latino and white MSM. These data suggest a change in factors that facilitate transmission of both HIV and syphilis, such as risk behaviors or sexual networks.

Evidence Supporting an Increase in HIV Transmission among Young Black MSM

- Primary and secondary syphilis diagnoses increased among young black MSM before the increase in HIV diagnoses
- Among young black MSM from 1999-2008, 75% of the HIV diagnoses occurred among men <25 years old

Although new HIV diagnoses reflect both recent and longstanding infection, MSM under age 25 are likely to have been infected relatively recently.

Limitations of Objective 1 Methods

- Only data from publicly funded HIV counseling and testing sites were included
- Data for the Social Networks Testing Strategy were only available for 2008

Summary of Object 1

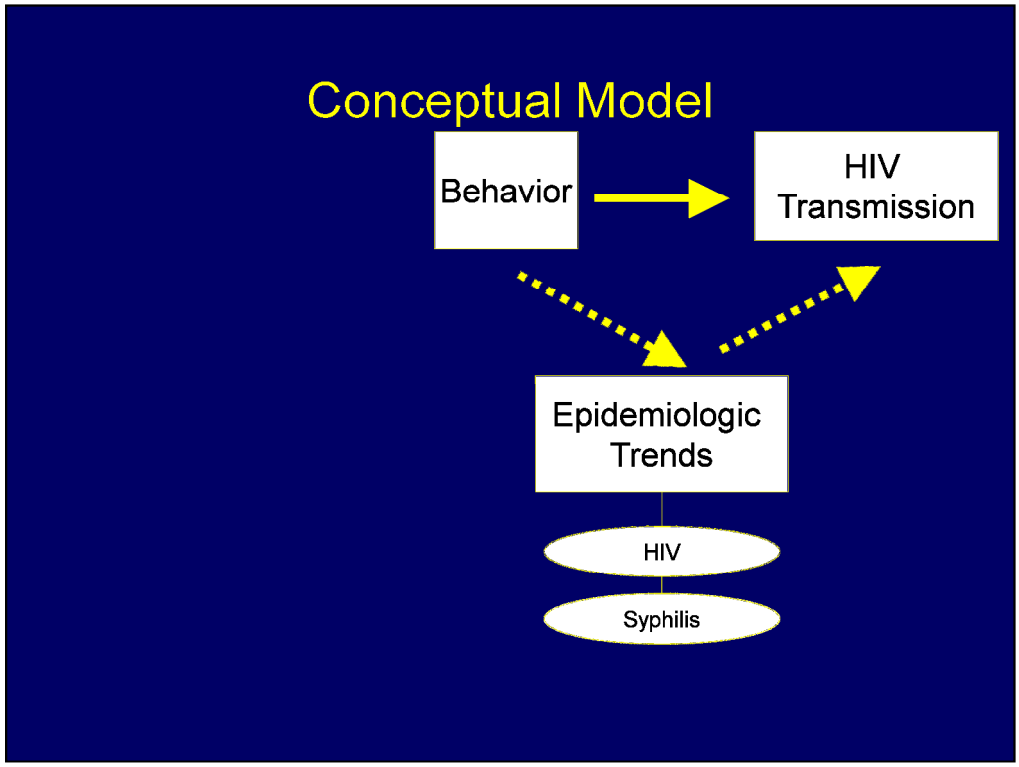
- The Social Networks Testing Strategy and other intensified testing efforts were insufficient to account for the increase in diagnoses seen among young black MSM from 1999-2001 to 2006-2008.
- Increased HIV transmission likely occurred during 1999-2008.

Objective 2:

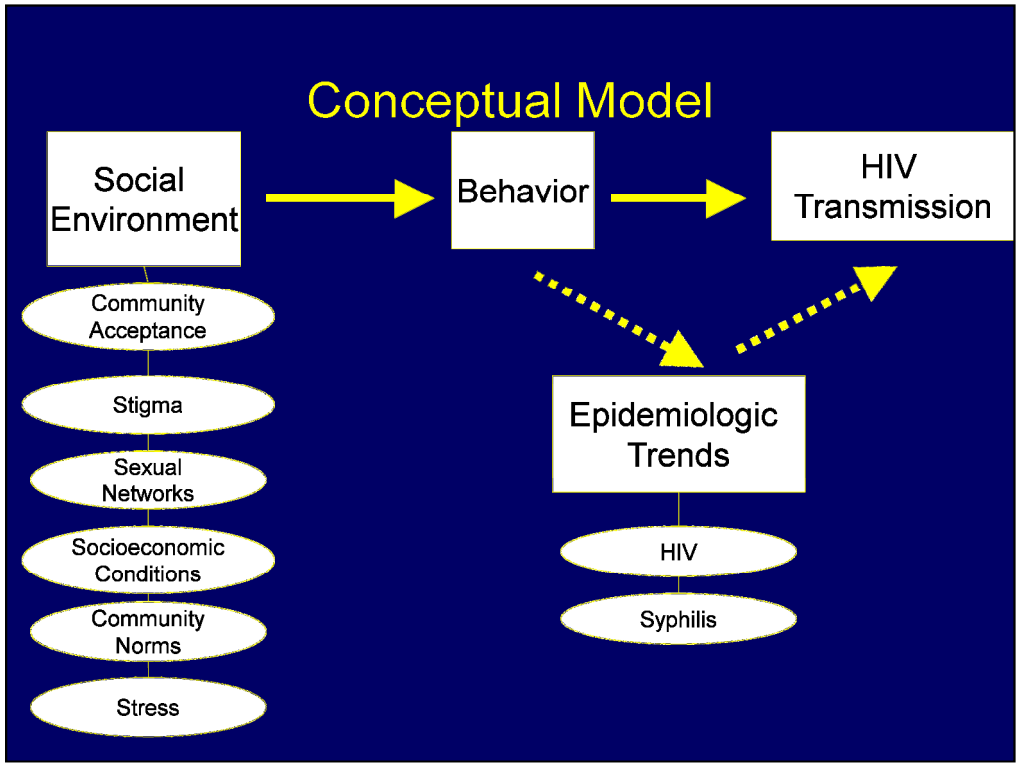
What factors are associated with increased HIV transmission?

Considerations for Determining Approach to Objective 2

- Multiple interrelated factors may increase the likelihood of HIV transmission for young MSM
- Factors identified in key informant interviews and prior research provided a starting point
- A conceptual model reflecting factors expected to be important a priori was needed to refine the approach



The behaviors in which young MSM engage affect the likelihood of HIV infection, and whether behavior leads to infection can be mediated by epidemiologic trends in HIV and syphilis. For example, an increasing prevalence of HIV within the sexual networks of young black MSM might lead to increased rates of HIV infection even without an increase in risk behavior. As the example shows, behaviors alone may not explain increased rates of HIV infection, and behavior itself is influenced by the social environment.



Social/environmental factors might have shaped a context of vulnerability for HIV transmission to young black MSM by increasing their risk of exposure to HIV and/or compromising their ability to protect themselves from infection. In other words, aspects of the social environment, such as community support, stigma, sexual networks, socioeconomic conditions, community norms, and stress, may have influenced behaviors placing young black MSM at high risk for HIV infection.

Methods for Assessing Factors Possibly Associated with Transmission

- Line listings provided by Milwaukee Health Department and WDPH (N = 185)
  - HIV
  - Syphilis
- Men recruited through communicable disease specialists (Keenan Health Center) and case managers (AIDS Resource Center of Wisconsin and 16th Street Clinic)

Methods for Assessing Factors Possibly Associated with Transmission

- Structured interview
  - Conducted via audio computer-assisted self-interviewing
  - Same core questions for HIV and syphilis cases
  - Varied testing and care questions made specific to HIV or syphilis
- Qualitative interview
  - Only with HIV cases (n = 29)
- $25 incentive for each component ($50 for participating in both the structured and qualitative interview)

Case Definition

- Black, Latino, or white MSM
- 15-29 years old when diagnosed
- Diagnosed with HIV or syphilis (primary or secondary) between January 1, 2006 – June 30, 2009
  - Reported to the HIV/AIDS or STD surveillance system
  - Interviewed as an HIV case if diagnosed with both HIV and syphilis
- Resident of Milwaukee County when diagnosed

Eligible Cases

- 185 cases were included in analyses
  - HIV (n = 155)
  - Syphilis (n = 27)
  - HIV and syphilis (n = 3)
- 184 met the case definition*

* Note: Data on all 185 cases are presented, including 1 case who did not meet the case definition because he had latent syphilis.

Analytic Methods

- Chi-square for differences in proportions
  - Fisher's exact test when counts < 5
  - *P* values ≤ .10 are indicated
- Analysis of variance to test differences in means

Comparison of Young MSM with HIV and/or Syphilis Who Were and Were Not Interviewed

	Interviewed		Not interviewed		Total	
	n	%	n	%	N	%
Race/ethnicity						
Black	34	*69*	88	*65*	**122**	***66***
Latino	5	*10*	25	*18*	**30**	***16***
White	9	*18*	21	*15*	**30**	***16***
Mixed	1	*2*	2	*1*	**3**	***2***
Concurrent diagnosis of HIV and AIDS (HIV only)	14	*32*	24	*21*	**38**	***24***
Mean age at diagnosis, in years (p = .10)	22.5 (range = 17–29)		23.5 (range = 17–29)		**23.2**	

Among the 184 who met the case definition, 57 (31%) were successfully contacted during the month-long investigation. Forty-nine of these (89%) agreed to be interviewed. The race/ethnicity distributions of and mean ages of the men interviewed and not interviewed were similar.

Characteristics of Young MSM with HIV and/or Syphilis, By Race/Ethnicity

	Black		Non-Black	
	n	%	n	%
Total	34	*69*	15	*31*
HIV diagnosis 2006-2009 (n = 44)	29	*66*	15	*34*
Syphilis diagnosis 2006-2009 (n = 5)	5	*100*	0	*0*
Education level				
< High school diploma (*p* = .06)	7	*21*	3	*20*

Among the men interviewed, the majority were HIV infected (only five had syphilis, and all five of these were black). Fewer Latino and white men than black men were interviewed. The power to detect statistical differences between racial/ethnic groups is low because of the small numbers of Latino and white men interviewed.

Characteristics of Young MSM with HIV and/or Syphilis, By Race/Ethnicity

Characteristic	Black		Non-Black	
	n	%	n	%
Gay-identified	21	*62*	12	*80*
Had ≥ 1 female partner				
Lifetime	12	*35*	4	*27*
12 months before diagnosis	4	*12*	0	*0*
Past 3 months	2	*7*	0	*0*

Characteristics of Young MSM with HIV and/or Syphilis, By Race/Ethnicity

Characteristic	Black		Non-Black	
	n	%	n	%
Mean age at diagnosis, years (p = .008)	21.6 (range = 17–29)		24.4 (range = 17–29)	
Concurrent diagnosis of HIV and AIDS (HIV only)	10	*34*	4	*27*
Mean age at homosexual debut, years	15.0		16.7	
Mean age at first disclosure of sexual orientation to a relative, years (p = .03)	16.9 (range = 13–22)		19.0 (range = 14–24)	

The young average age at HIV diagnosis indicates that, on average, the MSM interviewed may have been infected with HIV when they were teenagers. The fact that approximately one third of the young MSM were diagnosed with AIDS when they received their diagnosis of HIV underscores that these men were likely infected some years earlier, with some being infected around the first time they had sex with a man. Those who had AIDS at their HIV diagnosis were likely infected for years because it takes, on average, 9 years to develop AIDS after HIV seroconversion.

HIV prevention interventions targeted to MSM require identification of persons as MSM. Data from this investigation imply that young men may be difficult to reach with individual-level interventions because they may not be identifiable as MSM before they are exposed to HIV. Scientific literature on sexual orientation development suggests that adolescence is a time when young MSM are exploring their sexuality and may not openly identify as gay or bisexual. The young MSM interviewed did not disclose their sexual attractions or behaviors to relatives until approximately 2 years after their first homosexual encounter; but by this time, some of them were likely already exposed to HIV. Because of the challenges involved in targeting HIV prevention interventions to young MSM, a general, population-level strategy, such as sexuality education including same-sex behavior, may be the best alternative.

Behaviors

Protective Behaviors Reported by Young MSM with HIV and/or Syphilis

Behavior	Black		Non-Black	
	n	%	n	%
Condom use with most or all male partners				
12 months before diagnosis	20	*61*	7	*50*
Past 3 months (sexually active only)*	17	*68*	9	*69*

*Note: The past 3 months was post-diagnosis for all MSM. MSM were diagnosed from January 1, 2006 through June 30, 2009 and were interviewed in October 2009.

The percentage reporting condom use with most or all male partners in the 12 months before diagnosis was higher for young black MSM.

Risk Behaviors Reported by Young MSM with HIV and/or Syphilis

	Black	Non-Black
Mean number of male partners, 12 months before diagnosis		
Oral	8.3	11.7
Anal	8.9	10.5
Mean number of male partners, past 3 months*		
Oral	3.6	2.9
Anal	4.0	4.0

*Note: The past 3 months was post-diagnosis for all MSM. MSM were diagnosed from January 1, 2006 through June 30, 2009 and were interviewed in October 2009.

Young black MSM reported fewer male sex partners than non-black MSM during the 12 months before their HIV or syphilis diagnosis but a larger mean number of male partners for oral sex during the past 3 months.

Risk Behaviors Reported by Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Barebacking (intentional unprotected sex)				
12 months before diagnosis*	7	*21*	4	*27*
Past 3 months	4	*12*	2	*13*

*Note: The past 3 months was post-diagnosis for all MSM. MSM were diagnosed from January 1, 2006 through June 30, 2009 and were interviewed in October 2009.

The percentage of men intentionally seeking unprotected intercourse was higher during the 12 months before diagnosis than during the past 3 months among young black and non-black MSM.

Perceived Mode of Infection Reported by Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
How did you become infected?*				
Main male partner	12	*35*	5	*33*
Casual male partner	15	*44*	9	*60*

*Note: Percentages do not add up to 100 because some MSM thought they were infected by other types of partners.

Quote Illustrating Disclosure As It Relates to Unprotected Sex

"...if you don't specifically say, 'Are you positive?' They're not gonna tell you. Like after I found I was positive, I had guys come back at me and say, 'Yeah, you never asked me and I was positive when we had sex.'"

In a qualitative interview, one respondent discussed the social context in relation to sexual behavior that places young MSM at risk. Although his quote is specific to HIV status disclosure, it illustrates how the social environment can shape exposures to HIV among young black MSM.

Summary of Behaviors

Most young black MSM interviewed engaged in protective behaviors (e.g., condom use) but many had risky behaviors (e.g., barebacking), and both behaviors may have been influenced by the social context.

Social Environment: Community Acceptance

Experienced/Perceived Acceptance of Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Changed living situation because of family's reaction to sexual orientation (p = .10)	13	*38*	2	*13*
Had to change living situation because of HIV status	7	*24*	3	*20*
Can be open about sexuality				
At church	4	*12*	3	*20*
At school (p = .06)	10	*29*	9	*60*
At work	14	*41*	8	*53*
At lesbian, gay, bisexual, or transgender center	15	*44*	8	*53*
At bars	20	*59*	12	*80*

These data suggest that nonacceptance of young MSM can exacerbate housing instability. Housing instability, in turn, can affect their risk behavior (e.g., by increasing the pressure to have "survival sex").

Although relatively few men could be open about their sexuality at church or school, most could be open at bars, where meeting for sex may be more common.

Feelings of Isolation Reported by Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
How often do you feel…*				
There's no one to turn to	14	*41*	3	*20*
Left out (p = .005)	13	*38*	0	*0*

*Note: Percentages represent MSM who reported feelings of isolation "most of the time" or "always."

Perceived Impact of Sexual Orientation on Others Reported by Young MSM with HIV and/or Syphilis

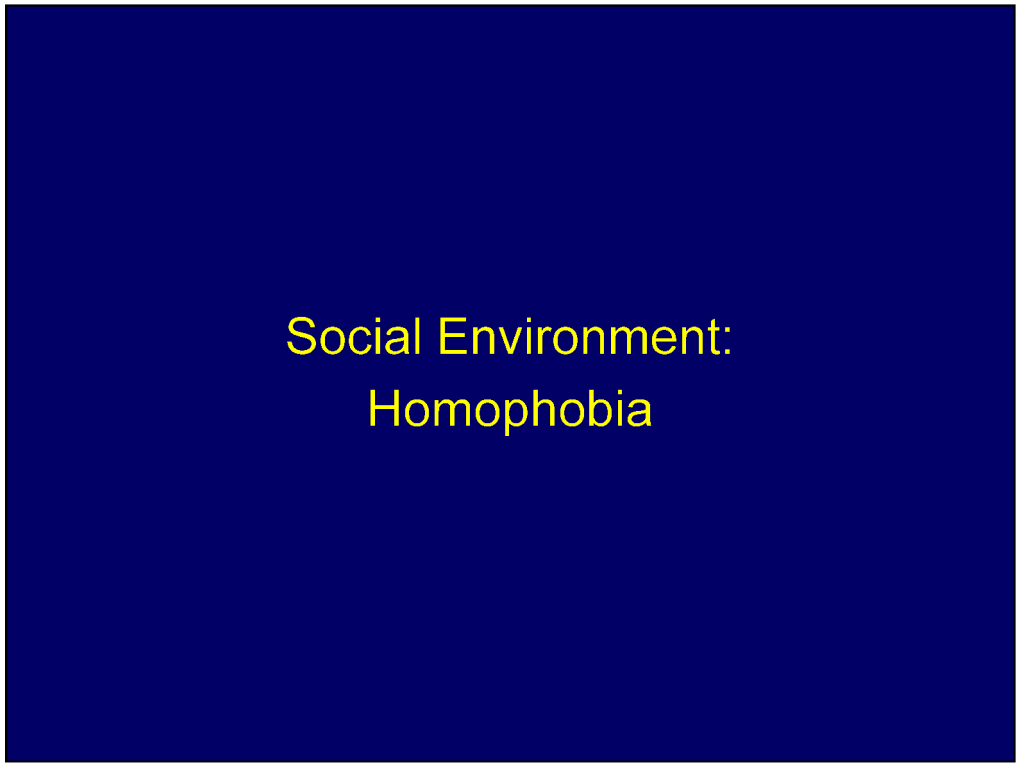
	Black		Non-Black	
	n	%	n	%
Your sexuality hurt or embarrassed family a few times or more	20	*59*	5	*33*

Quote Illustrating NonAcceptance of Young MSM

"The lifestyles that we normally live as young African-American men…the kind of stigma that goes along with being with gay or queer or…men who have sex with men…it's not something that's really always looked upon and in a good way."

Summary of Community Acceptance

- Young black MSM interviewed reported perceptions of and experiences with nonacceptance.
- Places in which the young black MSM interviewed can be most open about their sexuality (i.e., bars) are also those more closely associated with sex.



The interview included measures of internalized homophobia, that which is evident in negative thoughts young MSM have of themselves.

Internalized Homophobia Among Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Dislike myself for having sex with men	10	*29*	2	*13*
Feel stress or conflict for having sex with men	10	*29*	4	*27*
Sex between two men is a sin	15	*45*	3	*20*
Sometimes I wish I weren't attracted to men	19	*56*	4	*27*

These data indicate that indicators of internalized homophobia are more common among young black MSM than among non-black MSM.

Quote Illustrating the Relevance of Internalized Homophobia

"Well, if you can't admit to yourself that you're gay, how are you gonna ask your partner if they're HIV positive…there are people out there who don't do that and I guess I can see if you have a problem with yourself being gay and you don't wanna admit it fully, how are you gonna have a conversation with who you're having sex with about that kind of stuff?"

Summary of Homophobia

- Our data show that feelings that may indicate internalized homophobia were common among the young black MSM interviewed.
- Previous studies have shown that internalized homophobia may be associated with unprotected sex.

Sexual Networks

Older Partners Reported by Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Male partner >5 years older				
At homosexual debut	22	*65*	9	*60*
12 months before diagnosis	27	*82*	14	*93*
Male partner >10 years older				
At homosexual debut	11	*32*	5	*33*
12 months before diagnosis	18	*55*	9	*60*

At homosexual debut, a higher percentage of young black MSM than non-black MSM had a male partner greater than 5 years older. Almost all of the young MSM interviewed had sex with a male partner greater than 5 years older in the 12 months before their diagnosis. Because older MSM are more likely to be infected with HIV, having sex with older partners places young MSM at higher risk of acquiring HIV infection.

Quote Illustrating the Relevance of Sex with Older Partners

"Older guys can use that [naiveté of YMSM] to their advantage. You know, they know that the younger guy isn't really having sex with anyone and that's when they're like 'well, you know I'm not having sex with anyone. I'm here with you all the time. I'm buying you stuff. You know I love you. I told you I love you. I just want to be with you. You know, why should we have to wear a condom?'"

Insularity of Sexual Networks Among Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Racial/ethnic distribution of male sex partners, 12 months before diagnosis				
Only same race	14	*42*	3	*21*
Some same/some other race	16	*48*	11	*73*
Only other race	3	*9*	1	*7*

The Wisconsin Division of Public Health estimates that 20%-40% of black MSM ages 15-59 years in Milwaukee County may be HIV-positive, compared with 8%-16% for both white and Latino MSM in this age range. Because of the high HIV prevalence among black MSM, having same-race partners places young black MSM at high risk of acquiring HIV infection.

These prevalence estimates are based on the Centers for Disease Control and Prevention's estimate that 4% of men in the general population are MSM (see http://www.cdc.gov/nchhstp/Newsroom/msmpressrelease.html). However, data from the Youth Risk Behavior Surveys statewide and from the Milwaukee Public Schools suggest that this estimate may be low for Milwaukee, which would overestimate the HIV prevalence in the population. Therefore the Wisconsin Division of Public Health uses a range, estimating that 4%-8% of males are MSM.

Summary of Sexual Networks

- Many young black MSM interviewed had sex with older males, who have a relatively high HIV prevalence.
- The exposure of young black MSM to HIV may have been enhanced by having sex with other black MSM, due to a higher HIV prevalence among black MSM.

Socioeconomic Conditions

Milwaukee Socioeconomic Conditions

- Unemployment sharply increased in Milwaukee from July 2008 (6.9%) through September 2009 (11.0%)
- Milwaukee ranked 21st out of 49 metro areas in unemployment in November 2009
- Among 23 Wisconsin counties with Bureau of Labor Statistics Data, Milwaukee County had the highest poverty level (16.8%)

Socioeconomic instability among young MSM should be considered against a backdrop of increasing unemployment in Milwaukee and high poverty levels.

Increase in unemployment - (http://www.docstoc.com/docs/26297775/State-of-the-Milwaukee-Central-City)

Milwaukee unemployment rankings - http://www.bls.gov/web/laulrgch.htm

Milwaukee County poverty levels - http://factfinder.census.gov/servlet/GCTTable?_bm=y&-context=gct&-ds_name=ACS_2008_1YR_G00_&-mt_name=ACS_2008_1YR_G00_GCT1701_ST2&-CONTEXT=gct&-tree_id=308&-geo_id=04000US55&-format=ST-2&-_lang=en

Employment and Money for Necessities Among MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Neither employed nor in school	11	*32*	3	*20*
Lacked money for rent, food, or utilities				
12 months before diagnosis	10	*29*	6	*40*
Past 12 months	18	*53*	6	*40*

These data describe the socioeconomic vulnerability of young MSM in Milwaukee. Previous work has shown that socioeconomic vulnerability may shape a broader context of vulnerability, leading to behaviors associated with HIV infection (for one example, see Kipke MD, Weiss G, Wong CF. Residential status as a risk for drug use and HIV risk among young men who have sex with men. AIDS Behav 2007;11:S56-S69.)

Exchange Sex and Unstable Housing Among MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Exchanged sex				
12 months before diagnosis*	8	*24*	3	*20*
Past 3 months	6	*18*	3	*20*
Unstably housed				
12 months before diagnosis	7	*21*	2	*13*
Past 12 months (HIV only)	11	*38*	4	*27*

*Note: During the 12 months before diagnosis, all MSM who had exchanged sex for money. During the past 3 months, 1 non-black MSM exchanged sex in order "to go on a trip," but not for money.

Young black and non-black MSM exchanged sex in the 12 months before their diagnosis of HIV and/or syphilis and in the past 3 months (post-diagnosis). Higher proportions of young black MSM than non-black MSM were unstably housed before and after their diagnosis. One third or more of the young HIV-infected MSM interviewed were unstably housed after their HIV diagnosis. Because of the potential association of unstable housing with "survival sex," these findings have implications for ongoing HIV transmission.

Summary of Socioeconomic Conditions

- Indicators of low socioeconomic status and housing instability suggest vulnerability to HIV infection.

Community Norms

How and Where MSM with HIV and/or Syphilis Met Sex Partners

	Black		Non-Black	
	n	%	n	%
Traveled outside of Milwaukee for sex, 12 months before diagnosis	12	*35*	7	*47*
To Chicago (travelers only)	10	*83*	3	*43*
To a city other than Chicago (travelers only)	8	*24*	6	*40*
Had partners who traveled to Milwaukee, 12 months before diagnosis	13	*38*	9	*60*

How and Where MSM with HIV and/or Syphilis Met Sex Partners

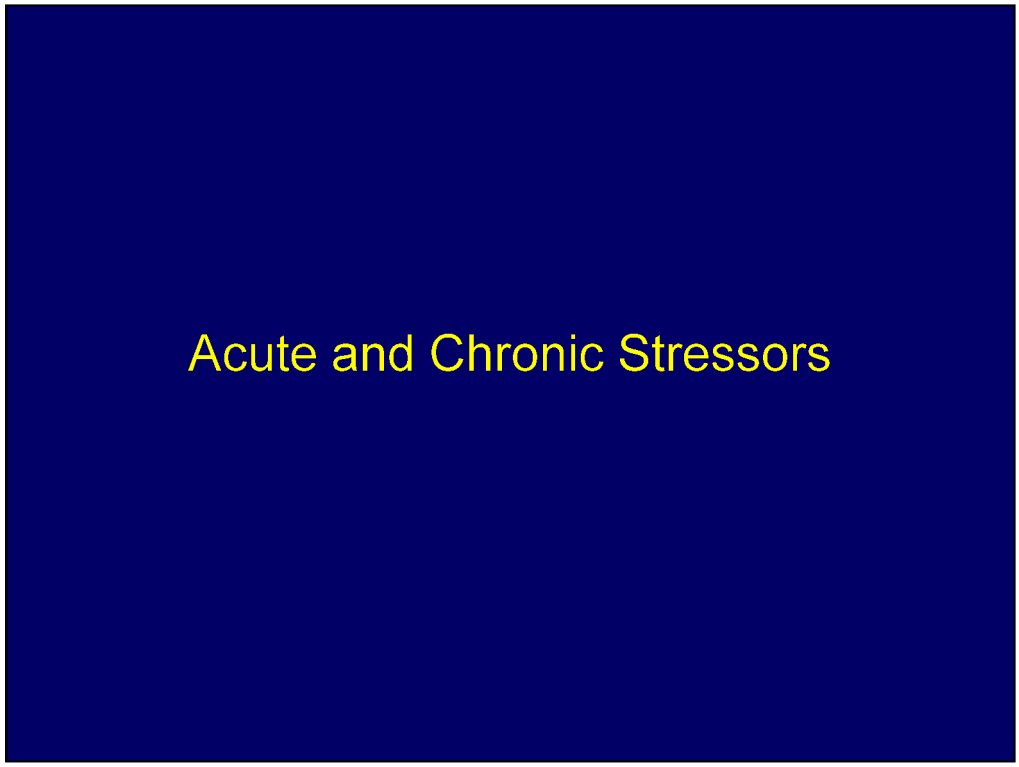
	Black		Non-Black	
	n	%	n	%
Met partners on the Internet				
12 months before diagnosis	25	*74*	11	*73*
Past 3 months	15	*44*	9	*60*
Met partners at bar, club, or party				
12 months before diagnosis	16	*47*	11	*73*
Past 3 months	9	*26*	4	*27*

Disclosure/Openness About Sexuality Among MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Ever disclosed sexual orientation				
To relative	29	*85*	13	*87*
To friend	28	*82*	11	*73*
Never disclosed sexual orientation to a relative or friend	2	*6*	2	*13*
Mean age of first disclosure, years (all who disclosed)				
To relative (p = .03)	17		19	
To friend	16		17	

Summary of Community Norms

- A large proportion of young black MSM traveled for sex or met partners on the Internet, which may have increased the likelihood of encountering HIV-infected partners.
- Most young black MSM interviewed had disclosed their sexual orientation to a friend or relative, although some had not.



Acute and chronic stressors related to sex, sexual orientation, and race/ethnicity were also explored because of their potential to contribute to vulnerability to HIV infection.

Pressure to Have Sex Among MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Ever pressured to have sex against your will	10	*29*	2	*13*
Mean # of times pressured	7.1		3.5	

A larger percentage of young black MSM had felt pressured to have sex than young non-black MSM, and black MSM who had been pressured to have sex also reported a higher number of these incidents.

Treatment by Others Based on Race and Sexual Orientation Among MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Treated worse than other races, past year				
At work or school	12	*40*	3	*21*
When seeking health care	3	*10*	1	*7*
Treated worse than other men because of perceptions of being gay or not manly enough, past 12 months				
At work or school	7	*26*	3	*20*
When seeking healthcare	4	*16*	0	*0*

Higher percentages of young black MSM than non-black MSM reported indicators of mistreatment based on race and sexual orientation.

Measures of racism were taken from Jones, C. P. Naming Racism. Presented at the 2001 Summer Public Health Research Videoconference on Minority Health. Available at http://74.125.47.132/search?q=cache:RZOvjZQyBKAJ:www.minority.unc.edu/institute/2001/materials/slides/Jones2001-06-18b.ppt+camara+jones+%22measures+of+racism%22&cd=4&hl=en&ct=clnk&gl=us

Measures of discrimination on the basis of sexual orientation were based on the above referenced measures of racism.

Reactions to Treatment by Others Among Men with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Symptoms due to treatment based on race, past 30 days				
Physical (p = .04)	9	*27*	0	*0*
Emotional	11	*32*	2	*13*
Symptoms due to treatment based on perceptions of being gay or not manly enough, past 30 days				
Physical	7	*23*	2	*13*
Emotional	11	*37*	5	*33*

Higher percentages of young black MSM than non-black MSM reported physical and emotional reactions to treatment on the basis of race and sexual orientation.

Measures of racism were taken from Jones, C. P. Naming Racism. Presented at the 2001 Summer Public Health Research Videoconference on Minority Health. Available at http://74.125.47.132/search?q=cache:RZOvjZQyBKAJ:www.minority.unc.edu/institute/2001/materials/slides/Jones2001-06-18b.ppt+camara+jones+%22measures+of+racism%22&cd=4&hl=en&ct=clnk&gl=us

Measures of discrimination on the basis of sexual orientation were based on the above referenced measures of racism.

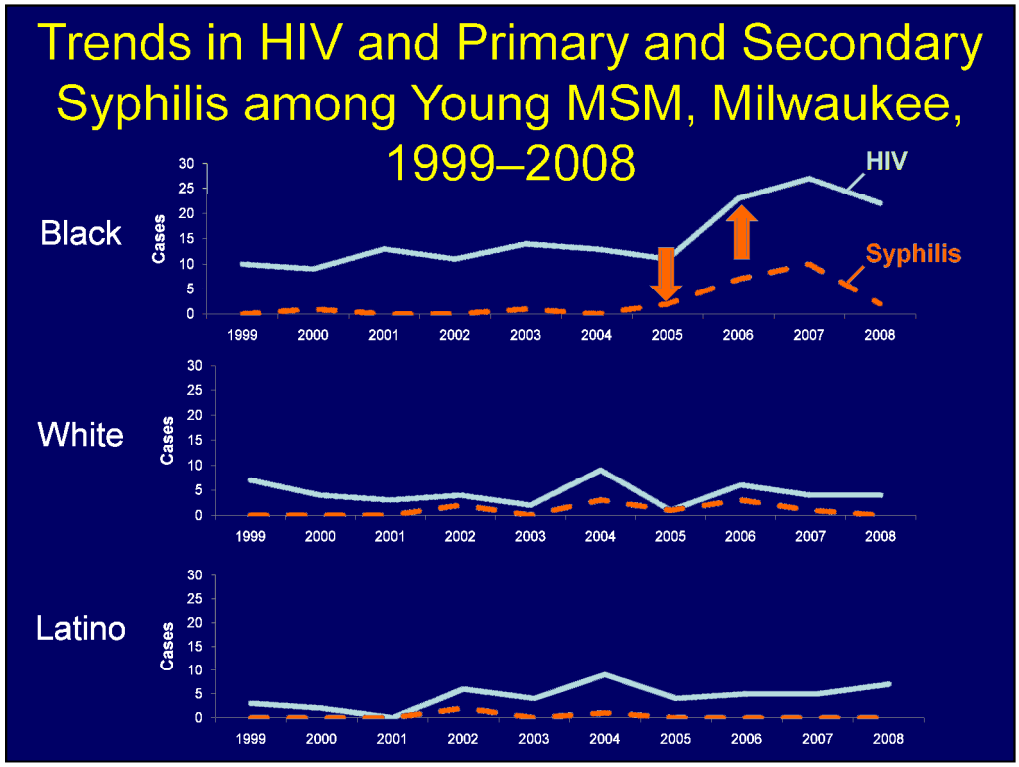
Summary of Acute and Chronic Stress

- The young black MSM interviewed encountered pressures to have sex and stress related to treatment on the basis of race and sexual orientation.

Limitations of Objective 2 Methods

- Small number of cases (N = 49) limited comparisons by race/ethnicity
- MSM receiving HIV medical care are overrepresented
- Interviews did not include HIV-negative MSM
- Only 26% of eligible cases were interviewed
- MSM interviewed may have had difficulty recalling behaviors that occurred

Epidemiologic Trends in HIV and Syphilis



The increase in primary and secondary syphilis diagnoses that occurred among young black MSM in the year before the increase in HIV diagnoses suggests that syphilis may have helped to fuel the HIV transmission among young black MSM. Specifically, these trends suggest that young black MSM may have had more HIV and syphilis in their sexual networks, which increase the likelihood of exposure to these infections. This pattern was not observed for young white and Latino MSM.

From these trends it is unclear if there were two separate epidemics or if the same people were contracting HIV and syphilis. An abstraction of data from Milwaukee Health Department records on syphilis cases was performed to clarify whether the same MSM were contracting HIV and syphilis, and to identify opportunities for prevention.

Methods for Assessing the Intersection of HIV and Syphilis

- Case definition: MSM aged 15–29 years diagnosed with primary or secondary syphilis in Milwaukee County, January 2006–June 2009
- Reviewed records of disease intervention specialists employed by the Milwaukee Health Department
- Abstracted information for index cases and partners
  - Demographics (age, race, and gender)
  - Sexually transmitted infections and HIV

Demographic Characteristics of Young MSM Diagnosed with Syphilis

- N = 29
  - 100% were interviewed by communicable disease specialists and had documented treatment
  - 7 (24%) had primary syphilis
- Majority black (76%), all non-Hispanic
- Average age at diagnosis: 23 years (range: 17– 29)

HIV and Sexually Transmitted Infection (STI) History among Young MSM with Syphilis

	Total (N = 29)	
	n	%
Previous STI	10	*34*
Co-infected with HIV	11	*38*
Previous HIV diagnosis	9	*31*
Concurrent HIV diagnosis	2	*7*
HIV + current syphilis + history of other STI	6	*21*
HIV after syphilis diagnosis*	3	*17*

*Note: N=18 (excludes 11 MSM who were co-infected with HIV and syphilis)

Among MSM diagnosed with syphilis who had a previous sexually transmitted infection (STI), most had been diagnosed with *Chlamydia* or gonorrhea; none had a history of multiple STIs.

That some young men with syphilis had a previous STI, that some were diagnosed simultaneously with HIV and syphilis, and that some went on to be infected with HIV highlights missed opportunities for prevention.

STI After HIV Diagnosis among Young MSM with HIV

	Black		Non-Black	
	n	%	n	%
Diagnosed with an STI after HIV diagnosis (HIV only)	4	*14*	4	*27*
Syphilis	3	*75*	3	*75*
Herpes	2	*50*	2	*50*

Note: Data collected during CDC's interviews with young MSM in Milwaukee County, October 2009–November 2009.

These data indicate the potential for young HIV-positive MSM to transmit HIV and highlight the importance of prevention work with HIV-positive MSM.

Potential for Ongoing HIV Transmission

- High HIV prevalence in Milwaukee County*
  - Black MSM: 20%–40%
  - White and Latino MSM: 8%–16%
  - Young MSM have high likelihood of exposure to HIV
- Potential for HIV infection is enhanced by the prevalence of syphilis among young MSM and their potential partners

*Note: Estimates provided by the Wisconsin Division of Public Health.

Summary of Epidemiologic Trends

- Young black MSM in Milwaukee are vulnerable to HIV due to the increasing trends in both HIV and syphilis.
- Some young MSM contracted syphilis after HIV and some contracted HIV after syphilis, suggesting continued risk behavior following the initial diagnosis and missed opportunities for intervention.

Objective 3:

What are the opportunities for prevention?

Issues to Consider

- Communication and interactions with health care providers are important for the health of HIV-infected MSM
- Complexity and interrelatedness of factors associated with HIV infection necessitate a multipronged approach

Methods for Assessing Opportunities for HIV Prevention

- Analyses of case series from case series interviews
- Specific data reviewed
  - HIV testing trends history
  - Prior contact with Milwaukee Health Department
  - Providers' knowledge of sexual orientation
  - STI after HIV diagnosis
  - Social support

Trends in HIV Testing among Young MSM by Race/Ethnicity, 1999–2008

	Black		Latino		White	
	1999-2001	2006-2008	1999-2001	2006-2008	1999-2001	2006-2008
# of tests conducted	213	739	189	561	868	1,088
% change*	*247%*		*197%*		*25%*	

*Note: Percent change reflects the difference between the two 3-year periods. Data provided by the Wisconsin Division of Public Health.

HIV testing increased from 1999 through 2008 among young MSM. A high level of HIV testing should be maintained to support prevention.

HIV Testing Before Diagnosis Reported by Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
HIV testing, 24 months before diagnosis (HIV only)				
Got tested	22	*76*	13	*87*
Mean # of tests (among those tested)	3.0		3.3	

Note: Data collected during CDC's interviews with young MSM in Milwaukee County, October 2009–November 2009.

Each testing encounter represents an opportunity to reinforce prevention messages. Information about the high HIV prevalence among MSM in Milwaukee and the increasing HIV and syphilis trends in young MSM should be conveyed during testing encounters.

HIV Testing Before Diagnosis Reported by Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Place most frequently tested, 24 months before diagnosis (testers only)				
Public clinic/health department	16	*73*	9	*79*
Doctor's office	6	*21*	2	*13*
Motivation for most recent test				
Decided to get tested yourself	15	*52*	11	*73*
Someone else recommended	8	*28*	3	*20*

Note: Data collected during CDC's interviews with young MSM in Milwaukee County, October 2009–November 2009.

Where young MSM go to access HIV testing, and why they decided to get tested may help to guide prevention efforts specific for this population.

HIV Testing Before Diagnosis Reported by Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Self-testers' reasons for last test (HIV only, self-testers)				
Wanted to know status	6	*40*	5	*45*
Saw, heard, or read something	3	*20*	3	*27*
Recommended-testers' reasons for last test (HIV only, recommended testers)				
Recommended by provider (p = .05)	0	*0*	2	*67*
Recommended by sex partner	3	*38*	0	*0*
Recommended by relative or friend	4	*50*	1	*33*

Note: Data collected during CDC's interviews with young MSM in Milwaukee County, October 2009–November 2009.

Self-testers are MSM who, of their own will at their most recent test, decided to get tested. Recommended-testers are MSM who, at their most recent test, tested because someone else recommended that they do so.

HIV Care Reported by Young MSM with HIV

	Black		Non-Black	
	n	%	n	%
Currently in care	27	*93*	15	*100*
Ever in care	28	*97*	15	*100*
Time lapse since HIV diagnosis and care				
≤ 1 month	19	*68*	7	*47*
≤ 3 months	26	*93*	11	*73*

Note: Because most respondents were recruited through their HIV medical providers, the percentages in care do not represent all HIV-positive young MSM. Data collected during CDC's interviews with young MSM in Milwaukee County, October 2009–November 2009.

Contact with HIV care providers allows opportunities for prevention counseling of HIV-positive young MSM.

HIV Care Reported by Young MSM with HIV

	Black		Non-Black	
	n	%	n	%
Time lapse since most recent visit to medical provider (in care only)				
≤ 3 months	23	*82*	15	*100*
≤ 6 months	26	*93*	15	*100*

Note: Because most respondents were recruited through their HIV medical providers, the percentages in care do not represent all HIV-positive young MSM. Data collected during CDC's interviews with young MSM in Milwaukee County, October 2009–November 2009.

Contact with HIV care providers allows opportunities to deliver prevention counseling to HIV-positive young MSM.

Providers' Knowledge of Sexual Orientation Reported by Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Providers knew you were MSM, before 1st positive test* (p = .07)	15	*45*	11	*73*
Reasons providers didn't know				
Provider didn't ask	11	*52*	1	*20*
I felt uncomfortable discussing	11	*52*	3	*60*
Not related to visit	6	*29*	2	*40*
Provider would judge me	3	*14*	1	*20*

*Note: Men who responded "yes, definitely" or "I think so" are included in the "yes" category. Data collected during CDC's interviews with young MSM in Milwaukee County, October 2009–November 2009.

These data suggest that opportunities for providers to talk with young black MSM before they become infected are not being fully utilized for their prevention potential. Efforts should be made to raise awareness that these conversations provide opportunities for risk counseling to be tailored to the needs of young sexually active men.

Social Support Reported by Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Have older woman to teach strategies for living	26	*76*	9	*60*
Have older man to teach strategies for living	21	*62*	5	*33*
Is he MSM?	14	*67*	2	*40*

Note: Data collected during CDC's interviews with young MSM in Milwaukee County, October 2009–November 2009.

Social Support Reported by Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Accepting reaction by others at first sexual orientation disclosure (disclosers only)				
Friend	26	*93*	10	*91*
Relative (p = .07)	18	*62*	12	*92*
All/most relatives supportive when told of HIV status (HIV only)	15	*75*	9	*75*

Note: Data collected during CDC's interviews with young MSM in Milwaukee County, October 2009–November 2009.

Even though some MSM experienced nonacceptance (data shown earlier), most had someone who could provide them support and acceptance. It may be beneficial to engage these supportive persons when implementing HIV prevention strategies for young MSM.

Contact with Milwaukee Health Department among Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Informed by Milwaukee Health Department staff of STI/HIV exposure, 12 months before diagnosis	12	*35*	2	*13*
Exposed to HIV (exposed only)	9	*75*	1	*50*

Note: Data collected during CDC's interviews with young MSM in Milwaukee County, October 2009–November 2009.

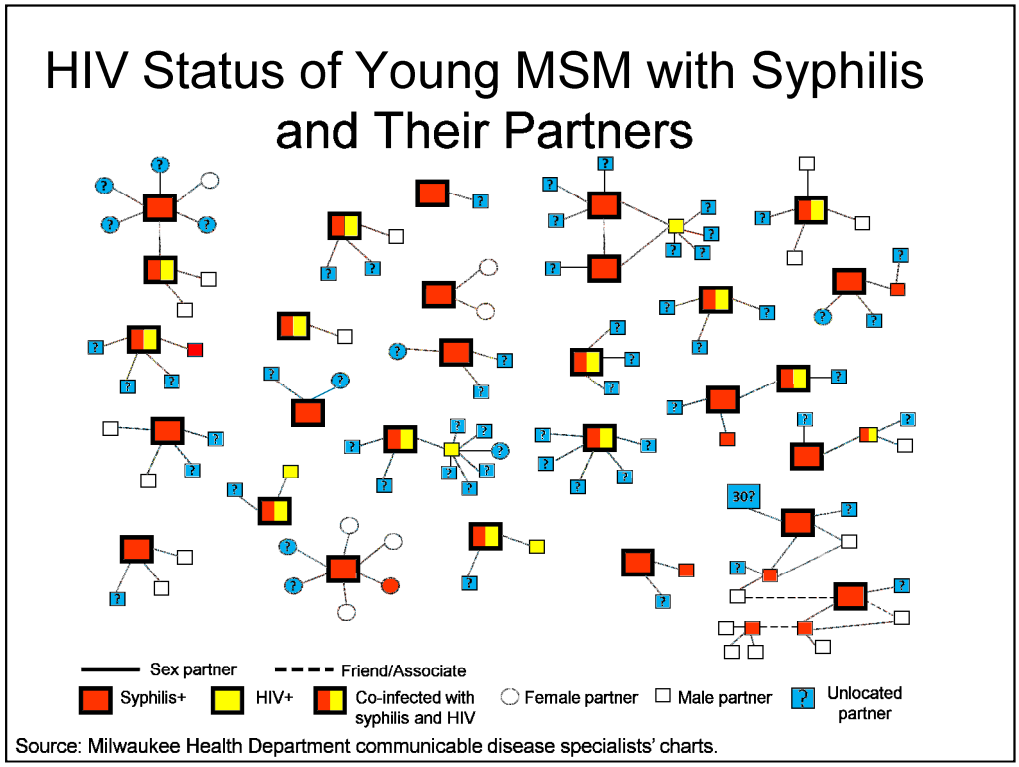
The ability of the health department to inform young MSM about an exposure to HIV or other sexually transmitted infection depends on the index case having named all partners and the ability to locate all partners.

Contact with Milwaukee Health Department among Young MSM with HIV and/or Syphilis

	Black		Non-Black	
	n	%	n	%
Contacted by Milwaukee Health Department after diagnosis	27	*79*	13	*87*
Outcome of contact w/ health department (those contacted only)				
Request for names of partners	24	*89*	11	*85*
Given HIV information	18	*67*	7	*54*
Help to tell sex partners about diagnosis	12	*44*	5	*38*
Given treatment or medical referral (p = .08)	13	*48*	2	*15*
Offered STI/HIV test	8	*30*	4	*31*

Note: Data collected during CDC's interviews with young MSM in Milwaukee County, October 2009–November 2009.

Data represent contacts recalled by young MSM interviewed, and may under represent actual contact. Post-diagnosis contacts are critical intervention points; contact should be initiated with all persons diagnosed with an STI.



This cluster map of primary and secondary syphilis index cases and their reported partners visually highlights the high prevalence of HIV co-infection in the sexual network of young MSM with syphilis in Milwaukee. Almost half of the syphilis index cases were co-infected with HIV. Twenty percent of syphilis index cases had an HIV-positive partner. However, these data underestimate the prevalence of HIV in the networks since more than 75% of the partners elicited during partner notification were not able to be located; therefore, their HIV status is unknown.

Sex Partner Characteristics Reported by Young MSM Diagnosed with Syphilis

	Total (N = 29)	
	n	%
Partner ≥ 5 years older (index cases)	13	*46*
Partner of a different race (index cases)	4	*14*
Concurrent partnership (index cases)	13	*46*
Met a partner on the Internet (index cases)	3	*11*
Had a partner outside of Milwaukee (index cases)	7	*25*
Had a partner with HIV (index cases)	7	*25*

Note: Sex partner data are specific to the infection period and based on available data. The time period for determining the number of sex partners was the past 3 months for primary syphilis cases and the past 6 months for secondary syphilis cases. Data were obtained from communicable disease specialists' charts.

These data may be helpful in informing behavioral interventions for young MSM.

Limitations of Objective 3 Methods

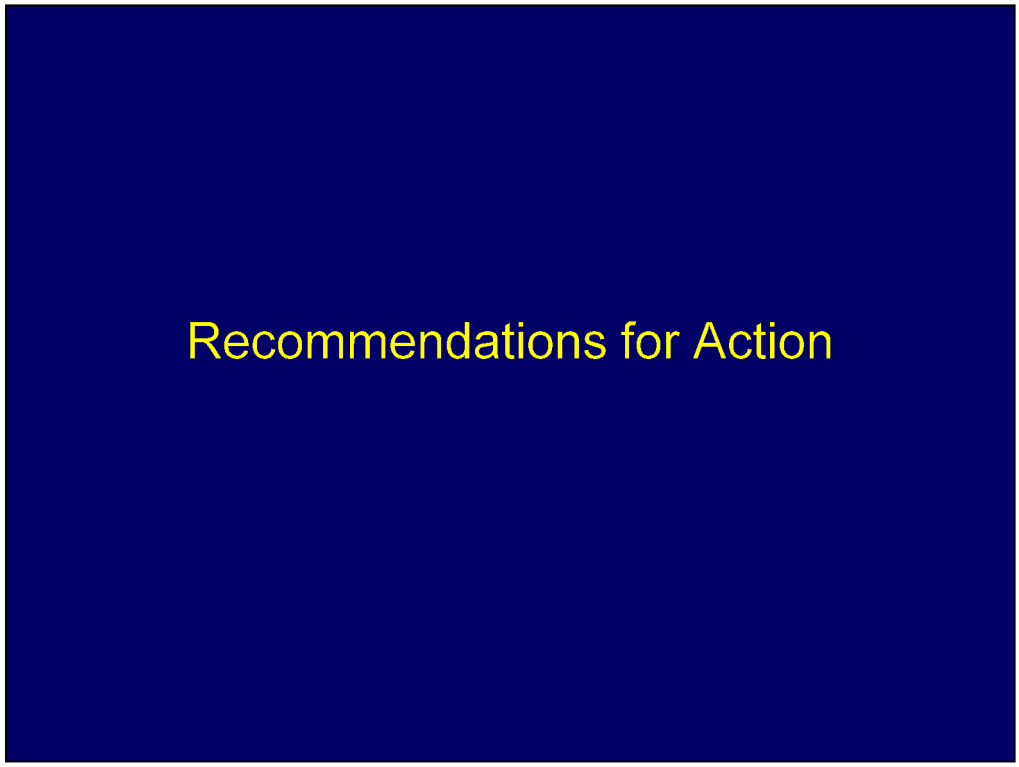
- Case series data
  - Small number of cases (N = 49) limited comparisons by race/ethnicity
  - MSM receiving HIV medical care are overrepresented
  - Interviews did not include HIV-negative MSM
  - Only 26% of eligible cases were interviewed
  - MSM interviewed may have had difficulty recalling behaviors that occurred
- Chart abstraction data
  - Few partners of syphilis index cases could be located, which limited partner services data on sexual networks

Summary of Opportunities for Prevention

- Opportunities exist to increase the effectiveness of HIV prevention among young MSM through HIV counseling and testing, interactions with health care providers, support networks, partner services, and behavioral interventions.

Conclusions

- The observed increase in diagnoses appears to reflect an increase in HIV transmission among young black MSM
- The high HIV prevalence among MSM in Milwaukee County and the intersecting syphilis epidemic have likely contributed to increased transmission
- The social context of young black MSM living in Milwaukee may affect their HIV risk
- There are opportunities to improve the effectiveness of efforts to prevent HIV and other sexually transmitted infections among young black MSM in Milwaukee



The Wisconsin Division of Public Health, City of Milwaukee, and community organizations have been actively engaged in efforts to prevent HIV among young MSM for many years. The recommendations on the next slides might help build on these efforts.

Recommendations

- Continue HIV and STI testing, high quality partner services, and prevention programs
- Incorporate messages based on lessons learned from the investigation (increasing transmission among young MSM, high HIV prevalence among MSM) into
  - Post-test counseling
  - Provider communication with young MSM
  - Partner services communications
  - Media and other interventions reaching young MSM

Recommendations

- Implement activities to reach HIV+ and HIV- black MSM including individual, group, and community-level interventions to address
  - Risk behavior
  - Homophobia
  - Other factors associated with risk and transmission
- Engage community members and influential people in the lives of young black MSM to support prevention and healthy expressions of sexuality